

Serial No.: 10/025,983  
Atty. Docket No.: P67385US0

IN THE CLAIMS:

Please cancel claims 20-30 without prejudice or disclaimer to their being reinstated in a divisional application, amend claims 1-19, and add claims 31-33 as follows:

1. (Currently Amended) A method for determining the concentration of an ion, atom or molecule bound in a complex, ~~characterised in that~~  
the method comprising the step of preventing complexing of the ion, atom or molecule ~~is prevented~~ at least during the determination of the concentration by controlling the addition ~~or withdrawal~~ of a substance.

2. (Currently Amended) A The method in accordance with claim 1, wherein the added substance is an acid and the complexing is prevented by a pH change.

3. (Currently Amended) A The method in accordance with claim 1, wherein the complexing is prevented by interrupting in ~~that~~ the addition of the complexing agent ~~is interrupted or that~~ the complexing agent enters into a complex with another added substance ~~and thereby releases the ion, atom or molecule whose concentration is to be determined.~~

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4. (Currently Amended) A method ~~in accordance with any of claims 1 to 3, wherein it is a question of a method~~ for determining the ion concentration of blood of a patient in citrate anti-coagulated haemo-dialysis and/or haemo-filtration ~~anti-coagulated with citrate, with~~ comprising the steps of determining the ion concentration of the blood ~~being determined~~ on the basis of a the determination of the ion concentration in the dialysate, and ~~with~~ preventing the complexing of ~~the~~ a relevant ion with citrate ~~being prevented~~ before the determination of the ion concentration in the dialysate for the purpose of determining the ion concentration.

5. (Currently Amended) ~~A~~ The method in accordance with claim 4, wherein the complexing is prevented by temporarily interrupting ~~in that the~~ citrate addition into the blood circulation ~~is temporarily interrupted~~.

6. (Currently Amended) ~~A~~ The method in accordance with claim 4, wherein the complexing is prevented by lowering a pH to release ~~in that the ion is released~~ from the ion/citrate complex in the dialysate ~~by lowering the pH~~.

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7. (Currently Amended) A The method in accordance with claim 5, wherein the measurement of the ion concentration in the dialysate is carried out after interrupting the citrate addition at the end of a length of time which is composed of a dead time caused by dead volumes and of a period of time required to reach a quasi-stationary state.

8. (Currently Amended) A The method in accordance with claim 5, wherein the measurement of the ion concentration in the dialysate is carried out a multiple of times after interrupting the citrate addition and the measured value is determined after reaching a quasi-stationary state.

9. (Currently Amended) A The method in accordance with claim 5, wherein the measurement of the ion concentration is repeated a multiple of times after interrupting the citrate addition and the measured value is determined by extrapolation of the ion concentrations obtained in the dialysate.

10. (Currently Amended) A The method in accordance with claim 5, wherein the citrate concentration is interrupted for a pre-determined time interval and the measured value is determined

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by integration of ~~the~~ an area of ~~the~~ a response function defined by the ion concentration in the dialysate as a function of time.

11. (Currently Amended) ~~A~~ The method in accordance with claim 6, wherein the pH is set to a ~~the~~ range of pH = 2-3.

12. (Currently Amended) ~~A~~ The method in accordance with claim 6, wherein the setting of the pH in the dialysate takes place by means of an infusion of acid.

13. (Currently Amended) ~~A~~ The method in accordance with claim 4, wherein the dialysate flow is reduced for the purpose of approximating the ion concentration of the dialysate to the ion concentration of the blood.

14. (Currently Amended) ~~A~~ The method in accordance with claim 4, wherein the determination of the ion concentration of the blood takes place by calculation without reducing the dialysate flow.

15. (Currently Amended) ~~A~~ The method in accordance with claim 4, wherein the detection of the ion concentration in the

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dialysate takes place by means of an ion-sensitive sensor in the dialysate flowing away from the dialyser.

16. (Currently Amended) A The method in accordance with claim 4, wherein the determined ion concentration of the blood of a patient serves as a controlled variable whose value is influenced by ~~the~~ control variables of citrate addition and/or addition of a substitution medium containing ions.

17. (Currently Amended) A The method in accordance with claim 4, wherein an alarm is triggered when the determined ion concentration in the blood of the patient lies outside a permitted range or differs from a permitted value.

18. (Currently Amended) A The method in accordance with claim 4, wherein the ion concentration in ~~the~~ a compartment of the dialyser on the blood side thereof is determined without interrupting the citrate supply and is compared with a permitted threshold value of the ion concentration, with ~~and the~~ citrate feed ~~is being~~ changed in dependence on this comparison.

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19. (Currently Amended) A The method in accordance with claim 4, wherein the ions are calcium ions ~~and/or magnesium ions~~.

Claims 20-30 (Canceled).

31. (New) The method in accordance with claim 1, wherein the complexing is prevented by having the complexing agent enter into a complex with another added substance and thereby release the ion, atom or molecule whose concentration is to be determined.

32. (New) The method in accordance with claim 4, wherein the ions are magnesium ions.

33. (New) The method in accordance with claim 4, wherein the ions are magnesium ions and calcium ions.